

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Blue Ridge Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

RADVA Corporation
Radford, Virginia
Permit No. (BRRO-20543)

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, RADVA Corporation has applied for a Title V Operating Permit for its Radford facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____
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Regional Director: _____ Date: _____
Robert J. Weld

FACILITY INFORMATION

Permittee

RADVA Corporation
P.O. Box 2900
Radford, VA 24143

Facility

RADVA Corporation
604 17th Street
Radford, VA 24141

County-Plant Identification Number: 51-750-00040

SOURCE DESCRIPTION

NAICS Code: 326140 - Polystyrene Foam Product Manufacturing – RADVA Corporation (RADVA) uses expandable polystyrene beads (EPS) or a polystyrene/polyethylene moldable foam resin (ARCEL) to produce custom protective packaging products.

Raw material, either EPS or ARCEL, is brought into the plant via truck. Steam heat softens the polymer and increases the vapor pressure of the blowing agent (pentane) causing the bead to expand (pre-expansion). The partially expanded material is transferred to aging silos, where it is allowed to stabilize for between 8 to 48 hours (pre-puff aging). The material may then be mixed with recycled material before additional steam is applied to further expand and fuse the material in a mold cavity (molding). The finished forms are then packaged and stored until ready to ship (storage).

The Industrial, Commercial, and Institutional Boilers Area Source MACT standard (40 CFR 63 Subpart JJJJJ) applies to the Superior boiler (B-2) and the Hurst boiler (B-3.1) as an existing source.

The facility is a Title V major source of volatile organic compounds. This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility is currently permitted under a minor NSR permit issued on December 6, 2012.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at

this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units at the facility are reflected in the Title V permit on Page 2.

EMISSIONS INVENTORY

A copy of the 2013 annual emission update is attached. Emissions are summarized in the following table.

	2013 Criteria Pollutant Emission in Tons/Year					
	CO	VOC	SO ₂	PM-10	NO ₂	PM _{2.5}
Total	3.4	95.5	0.02	0.31	4.0	0.31

EMISSION UNIT APPLICABLE REQUIREMENTS

The following section discusses requirements for the emissions units at the facility that are subject to Title V permitting. These requirements come from applicable federal requirements. The conditions are not repeated verbatim from the permit. The regulatory authority for each condition is listed in parentheses () below each condition in the permit.

Fuel Burning Equipment

There are three boilers at the facility. The Cleaver Brooks boiler (B-1) is an 8.375 MMBtu/hr natural gas fired boiler. This boiler is not subject to 9 VAC 5 Chapter 40 Existing Stationary Source regulations in Article 8 – Emission Standards for Fuel Burning Equipment (9 VAC 5-40-880 et seq.) or MACT JJJJJ due to the size and/or fuel consumed. This boiler is also not subject to NSPS Dc due to its size.

The Superior boiler (B-2) is a 7.0 MMBtu/hr natural gas fired boiler with oil backup. This boiler is subject to particulate and sulfur dioxide emission limits in 9 VAC 5 Chapter 40 Existing Stationary Source regulations in Article 8 – Emission Standards for Fuel Burning Equipment (9 VAC 5-40-880 et seq.), visible emission limits in 9 VAC 5 Chapter 50 New and Modified Stationary Sources and MACT JJJJJ (See the MACT JJJJJ section). This boiler is not subject to NSPS Dc due to its size.

The Hurst boiler (B-3.1) is a 10.043 MMBtu/hr natural gas and pentane fired boiler with oil backup. This boiler is subject to NSPS Dc and MACT JJJJJ (See the MACT JJJJJ section; the NSPS Dc requirements are included in the minor NSR permit dated December 6, 2012 and

are included in the Title V permit with corresponding 40 CFR Part 60 citations).

The boilers do not have controls therefore; Compliance Assurance Monitoring (CAM) does not apply.

Limitations

- Condition 1** The approved fuels for the Superior boiler (B-2) are natural gas and distillate oil.
- Condition 2** The approved fuels for the Hurst boiler (B-3.1) are natural gas, distillate oil and pentane.
- Condition 3** The distillate oil burned in the Hurst boiler (B-3.1) is required to meet ASTM specifications for number 1 or number 2 fuel oil and have a maximum sulfur content of 0.5%. The natural gas is required to meet ASTM specifications (or DEQ approved equivalent) and have a minimum 1,000 Btu/cf.
- Condition 4** The permittee is required to obtain a certification from the fuel supplier with each shipment of distillate oil that meets the requirements in 40 CFR 60.48c(f).
- Condition 5** Emissions from the operation of the Superior boiler (B-2) are limited to 0.6 lbs/MMBtu input for particulate matter and 18.5 lbs/hr for sulfur dioxide.
- Condition 6** Emissions from the operation of the Hurst boiler (B-3.1) are limited to 0.24 lbs/hr and 1.06 tons/yr for particulate matter, 0.07 lbs/hr and 0.31 tons/yr for PM-10, 5.17 lbs/hr and 22.64 tons/yr for sulfur dioxide, 1.46 lbs/hr and 6.39 tons/yr for nitrogen oxides, 0.82 lbs/hr and 3.59 tons/yr for carbon monoxide and 0.05 lbs/hr and 0.22 tons/yr for volatile organic compounds.
- Condition 7** Visible emissions from the Superior boiler (B-2) are limited to 20 percent opacity except during one six-minute period in any one hour which it is limited to 30 percent.
- Condition 8** Visible emissions from the Hurst boiler (B-3.1) are limited to 10 percent opacity except during one six-minute period in any one hour which it is limited to 20 percent.

Monitoring

- Condition 9** The source is required to conduct daily visible emission evaluations on the Superior (B-2) and Hurst boilers (B-3.1) when they operate burning oil; no visible emissions are expected while burning gaseous fuel. If visible emissions are observed the source must either correct the issue so that no visible emissions are observed or conduct a VEE in accordance with EPA Method 9.
- Condition 10** The source is required to train boiler B-3.1 equipment operators and maintain records of all required training. The source is also required to have written operating procedures and a maintenance schedule.

Reporting

- Condition 11** The source is required to submit semiannual fuel quality reports that meet the requirements in 40 CFR 60.48c(d), (e)(11) and (j).

Recordkeeping

- Condition 12** The source is required to maintain records of all fuel throughput data, emission data and operating parameters necessary to demonstrate compliance with the permit.

MACT Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources - Fuel Burning Equipment (B-2 & B-3.1)

RADVA is an area source of HAP emissions. Boiler B-1 is not subject to MACT Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources since it is a gas-fired boiler (§63.111959(e)). Boiler B-2 and B-3.1 are subject to MACT Subpart JJJJJJ as existing boilers since they were constructed before June 4, 2010.

Work Practice Standards, Emission Reduction Measures and Management Practices

- Condition 13** The permittee is required to be operated in compliance with the requirements of 40 CFR Part 63 Subpart JJJJJJ, by the applicable compliance dates as specified in 40 CFR 63.11196.
- Condition 14** The permittee is required to meet the work practice standards, emission reduction measures and management practice standards as specified in 40 CFR 63.11201.

General Compliance Requirements

Condition 15 The permittee is required to comply with the General Compliance Requirements specified in 40 CFR 63.11205.

Initial Compliance Requirements

Condition 16 The permittee is required to comply with the Initial Compliance Requirements specified in 40 CFR 63.11214.

Continuous Compliance Requirements

Condition 17 The permittee is required to demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards as specified in 40 CFR 63.11223.

Notifications, Reports and Records

Condition 18 The permittee is required to submit notifications, maintain the records and submit reports as specified in 40 CFR 63.11225.

Other Requirements and Information

Condition 19 The permittee is required to comply with the applicable General Provisions as specified in 40 CFR 63.11235.

Considering the primary combustion of natural gas in the boilers and the low likelihood of visible emissions from natural gas fired boilers, the monitoring, recordkeeping and reporting that is included in these sections for the boilers meet permit content obligations at 9 VAC 5-80-110 E & K and are considered sufficient to assure compliance with the limits included in this permit.

Process Equipment Requirements – Molded Foam Products (MFP)

The MFP equipment consists of pre-expanders, pre-puff storage, recycling system and finished goods storage. The equipment is included in the December 6, 2012 minor NSR permit. The MFP equipment is also subject to the New and Modified Stationary Sources regulations (9 VAC 5-50-10 et seq.).

Limitations

Condition 20 VOC emissions from the pre-expanders are required to be controlled by a pentane collection system and vented to the Hurst boiler (B-3.1).

Condition 21 The throughput of recycled foam product processed in the recycling system is limited to 100 tons/year.

Condition 22 The throughput of VOC from the use of polystyrene beads is limited to 170 tons/year.

Condition 23 The maximum VOC content of the EPS and ARCEL beads is limited to 6.5% and 11.1%, respectively.

Condition 24 Emissions from the operation of the foam products expanding and molding equipment is limited to 170 tons/year.

Recordkeeping

Condition 25 The permittee is required to maintain records of all emission data and operating parameters necessary to show compliance. These records include, but are not limited to: monthly and annual VOC (pentane) emissions in tons, annual throughput of recycled foam product processed through the recycling system, product supplier information and results of all stack tests, visible emission evaluations and performance tests.

The monitoring, recordkeeping and reporting that is included in these section meet permit content obligations at 9 VAC 5-80-110 E & K and are considered sufficient to assure compliance with the limits included in this permit.

Facility Wide Conditions

Condition 26 The source is required to be constructed so as to allow for emissions testing at any time using appropriate methods.

STREAMLINED REQUIREMENTS

Condition 9 of the December 6, 2012 minor NSR Permit has been streamlined out of the permit because the applicable parts of 40 CFR 60, Subpart Dc have been included in the Title V Permit (T5-3, 4, 11 and 12).

Conditions 16 (T5-63), 17 (T5-53), 19 (T5-40), 20 (T5-41) and 22 (T5-57) of the December 6, 2012 minor NSR permit have been streamlined. The requirements contained in these four conditions are included in the General Conditions section of the Title V permit.

The corresponding Title V permit condition is included in parentheses above and the Title V permit conditions include the corresponding minor NSR permit condition in the citation.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-09”.

Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition 59 - 62. For further explanation see the comments on General Condition 59.

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:
40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

STATE ONLY APPLICABLE REQUIREMENTS

None

FUTURE APPLICABLE REQUIREMENTS

None identified in application.

INAPPLICABLE REQUIREMENTS

None identified in the application. The facility is subject to 40 CFR 98.346 and is required to maintain GHG monitoring records and calculations. However, the requirements contained in the GHG Reporting Rule in 40 CFR 98 are currently not included in the definition of applicable requirements in 40 CFR 70.2 and 71.2 and are therefore not included in the Title V permit. There are no applicable GHG permitting requirements.

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A.4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

COMPLIANCE PLAN

None

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

There are no insignificant emissions units included in this permit.

CONFIDENTIAL INFORMATION

No confidential information request has been made. All portions of the Title V permit and application are available for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the *Roanoke Times* from July 10, 2014 to August 11, 2014. No comments were received. Notice was also provided to West Virginia and North Carolina as affected states. The EPA review period ended on August 25, 2014. No comments were received.